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State capacity, manufacturing and civil conflict

Roberto Ricciuti
University of Florence

Jacopo Costa
University of Florence

Abstract

In this note we empirically analyze the link between state capacity and civil conflict via the manufacturing sector, which is the source of wealth for emerging new elite interested in obtaining political representation, and is the outcome of a new political equilibrium more in tune with capital accumulation. This raises the cost of civil conflict, reducing its probability of occurrence. We find evidence in favor of our hypothesis in a panel of African countries.

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1. Introduction

In this note we empirically analyze the link between state capacity and civil conflict. The channel between the two is operationalised by the manufacturing sector, which is the source of wealth for an emerging new elite interested in obtaining political representation, and is the outcome of a new political equilibrium more in tune with capital accumulation. This raises the cost of civil conflict, reducing its probability of occurrence. We apply this reasoning to a panel of African countries over the period 1970-2007.

The paper is organized as follows: in Section 2 we review the relevant literature and exploit this link, and in Section 3 the empirical model, the data and the results are presented. Section 4 concludes.

2. Literature review

The literature on civil conflict stresses the role of three issues: income per-capita, institutional quality and state capacity. We link these three issues with manufacturing.

Poorer countries tend to experience more civil conflict. According to Fearon (2007) and Besley and Persson (2010), young and poor individuals are more likely to pursue violence if the opportunity-cost of conflict would be lower than the benefits of the *status quo*. Therefore, higher income per-capita increases risk-aversion, reducing the probability of violence. Two factors affect individual behaviour: on the one hand, the ability of the state to counteract the insurgence, on the other hand the amount of wealth to get. In particular, natural resources, linked with lower institutional quality, cause bad governance, inequality of wealth distribution, and elite insulation, which favour fragility, conflict and appropriation (Collier and Venables, 2009). Aghion *et al*. (2004) pointed out that an insulated political elite can redistribute wealth to his own benefit. In fragile states a small number of groups win and the others loose. Group differences are linked with several fractures: ethnical origins, socio-economic status, and history, for example between colonizers and colonized. These cleavages, in absence of a political system able to absorb them, can contribute to the emergence of civil conflicts.

From a different point of view, insulated elites emerging from the colonial juncture can negatively affect growth. As shown by Acemoglu and Robinson (2006, 2008), powerful groups have no incentives in promoting economic growth because it could lead to the expansion of other groups: they could build another power able to balance those of the current leading group. Such effect has historical evidence in the cities of Medieval Italy, and in the agricultural, proto-industrial and industrial growth of England from the 16th to the 18th century (Acemoglu and Robinson, 2008) where emerging groups were able to reduce the insulation of the most powerful groups and to reform the institutions in a more inclusive way. In this perspective we can have a better understanding of the poor performance in protecting property rights and enforcing contracts in fragile countries.

Besley and Persson (2008, 2009) define ‘state capacity’ as the institutions devoted to enforce property rights and contracts and to raise taxes, and consider ‘legal’ and ‘fiscal’ state capacity. Both are inherited from the investments made in the past in order to increase their value. They affect the capacity of the state to design markets and efficient taxation with positive effects on the production and distribution of public goods and on income levels. In a situation of both political insulation and low investments in fiscal and legal capacities, elites can increase their own insulation getting rid of the right to use public goods and redistribution for loosing groups. In this way income inequality is related with the origin of the groups. At the same time, if natural resources take a large share of production, the fiscal insulation of the elite is higher because their revenues are directly managed by the groups in charge of the state and not directed towards the population, further reducing accountability as shown by Bornhorst *et al*. (2008).

In Besley and Persson (2010) this model is related with the incidence of civil conflicts. The basic idea is that under low insulation, a democratic political system, a good level of minorities' protection, high income and a good system of taxes and transfers and allocation of public goods there is a lower probability of experiencing civil conflicts. In contrast, an unequal system can end up in two possible situations: repression or civil war. The latter arises when the leading group feels itself under threat because another one in increasing his productivity and wealth, and therefore reacts through repression. The former takes place when the disadvantaged group uses violence that, together with the willingness of the incumbent to keep the power, leads to civil conflict. The authors identify a relationship between the quality of legal and fiscal institutions and the income level, showing that the joint effects of these three dimensions contribute to the emergence of civil conflict.

Consider, now, a situation in which groups excluded from power in fact control over an expanding manufacturing sector. Firstly, capital accumulation will benefit both the capitalists – through profits – and workers – by paying higher wages with respect to the primary sector because of higher productivity. The growth of income per-capita will increase the opportunity-cost of civil conflict, reducing the probability of its outbreak. Higher income and wealth will also make this novel group of manufacturers a new power that will try to achieve political representation. The elite can: 1) contrast this quest through repression, ending up in a civil conflict that will destroy capital and production; 2) accept the power of the new group including it in the political system.[1] This is viable if the benefit from sharing power is higher than the expected value of a fight, which includes the possibility of a complete loss of power.

Increased political participation will also affect state capacity. On the one hand, there will be better protection of property rights, contracts and a more egalitarian distribution of public goods, improving the economic activity. On the other hand, a stronger secondary sector will make the government budget less dependent on agricultural products, which are typically poorly taxed and have a strong volatility of their prices, affecting revenues from export. This is even truer for natural resources. The new industrial elite will be more interested in the taxation/public goods package, pushing towards a system more favourable to accumulation.

We, therefore, highlight a three-way mechanism affecting civil conflict. A stronger manufacturing sector will have a direct effect by increasing income and making conflict less likely; indirectly, it will reduce the political, legal and fiscal insulation of the system. In turn, higher political competition can improve the fiscal and legal effectiveness of the state, making it more able to increase production and income. The final outcome is a reduction of civil conflicts.[2]

3. Model, data and results

We estimated the following panel data logit model:

$$Civilwar_{it} = \alpha_1 + \alpha_2 \mathbf{X}_{it} + \alpha_3 \mathbf{Z}_{it} + \alpha_4 \mathbf{W}_{it} + \varepsilon_{it} \qquad (1)$$

The dependent variable is a dummy equal to one in case of civil conflict and zero otherwise. Data are derived from Lacina and Gleditsch (2005).[3] The vector $\mathbf{X}_{it}$ includes the added value of the agricultural, manufacturing and mining sectors as a percentage of GDP (taken from

[1] This typically leads to the extension of the franchise.

[2] Caruso (2010) follows an argument similar to ours within the traditional theory of conflict (guns and butter, to which he adds ice-creams).

[3] The dataset is available at http://www.prio.no/CSCW/Datasets (accessed in July 2010).

UNCTAD), the vector $\mathbf{Z}_{it}$ includes economic variables such as openness over GDP and GDP per capita (taken from Heston et al., 2009), and $\mathbf{W}_{it}$ includes a measure of ethnic fragmentation (Alesina *et al*., 2003), democracy (Polity IV project, Political Regime Characteristics and Transitions, 1800–2009)[4] and a dummy variable for sub-Saharan countries. Finally, ε_{it} is a random error. All estimates are obtained by using random-effect probit panel data.

Results in Table 1 show that manufacturing is negative and significant, as predicted by our argument. The behaviour of the other variables is consistent across estimates, and in general quite similar to the one found in the literature. A higher share of GDP coming from natural resources increases the probability of conflict, as it is well known in the "resource curse" literature; the same holds for per capita GDP, since higher income increases the cost of conflict. Higher openness also decreases the probability of conflict, possibly because of higher competition that increases the cost of conflict. An interesting result concerns government spending, which positively affects conflict. The level of democracy also reduces the possibility of civil conflict.

Sub-Saharan countries do not behave differently from North African countries, and also ethnic fragmentation is not significant. The share of GDP devoted to agriculture is also insignificant.

Table 1 – Civil war

	(1)	(2)	(3)
Agriculture	0.011	0.011	0.011
	(1.80)	(1.76)	(1.84)
Manufacturing	-0.031	-0.031	-0.031
	(2.00)*	(1.99)*	(2.01)*
Mining	0.036	0.036	0.036
	(4.49)**	(4.58)**	(4.65)**
Democracy	-0.012	-0.012	-0.012
	(5.52)**	(5.53)**	(5.49)**
Openness	-0.013	-0.013	-0.013
	(4.21)**	(4.34)**	(4.41)**
Ethnic Fragmentation	0.558	0.394	
	(0.67)	(0.53)	
Sub-Saharan countries	-0.258		
	(0.44)		
GDP per capita	-0.019	-0.019	-0.019
	(3.33)**	(3.33)**	(3.36)**
Constant	-2.544	-2.645	-2.364
	(3.41)**	(3.70)**	(4.92)**
Observations	1793	1793	1826
Loglikelihood	-605.905	-606.000	-615.734
Wald χ^2	100.33**	100.30**	99.56**
Likelihood-ratio test for $\rho = 0$	314.14**	316.18**	323.31**

Absolute value of z statistics in parentheses. * significant at 5%; ** significant at 1%

[4] This index is bounded between -10 and 10, where 10 means perfect democracy.

4. Conclusions

In this note we argued that manufacturing is a key element in determining state capacity by providing both financial resources through taxation for investments and public goods, and by creating a new class of entrepreneurs that are interested in better governance and a more competitive political market. We have tested our prediction on a panel of 53 African countries over the period 1970-2007, and we found that the share of the manufacturing over GDP is negatively related with the occurrence of conflict.

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